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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,124	07/29/2003	Clive K. Tang	873.0123.U1(US	5924

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HARRINGTON & SMITH, PC
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EXAMINER	
NGO, NGUYEN HOANG	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,124	TANG ET AL.	
	Examiner	Art Unit	
	Nguyen Ngo	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1-32 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-30 of U.S. Patent No. 7016297. This is a double patenting rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7, 17-23 rejected under 35 U.S.C. 102(b) as being anticipated by Kadous et al. (US 2003/0095508), hereinafter referred to as Kadous.

Regarding claim 1, 17, Kadous discloses a method for operating an orthogonal frequency duplex multiplexing (OFDM) communications system (rate selection for an OFDM system, figure 1A), comprising:

when transmitting data over a plurality of OFDM sub-channels from an OFDM transmitter (transmitter 110 of figure 1a) to an OFDM receiver (receiver 150 of figure 1a) through a channel (communication channel, page 1 [0005]),

operating an adaptive learning automaton to adjust values of modulation coding scheme (MCS) switching thresholds (metric is evaluated for the specific modulation scheme associated with the selected data rate and that a threshold SNR is needed to transmit the selected data rate with the desired PER of Pe in the AWGN channel is determined. A threshold SNR is determined for each of the possible data rates, page 5 [0066]-[0068]) as to maximize at least one selected performance criterion (maximum data rate and desired PER of Pe);

based on the values of the switching thresholds, selecting a MCS and modulating data with the selected MCS (the highest data rate (with particular modulation scheme) associated with a threshold SNR that is smaller than or equal to the metric is selected for use, page 5 [0070] and figure 2); and

transmitting the modulated data over at least some of the sub-channels (figure 3).

Regarding claim 2, 18, Kadous discloses a method as in claim 1, further comprising:

receiving the data at the OFDM receiver; and

demodulating the received data using a demodulator that corresponds to the selected MCS (page 7 [0094]).

Regarding claim 3, 19 Kadous discloses a method as in claim 2, where the automaton is located at the OFDM transmitter, and where feedback information that is indicative of the at least one selected performance criterion is signaled from the OFDM receiver to the OFDM transmitter, and where information indicative of the selected MCS is signaled from the OFDM transmitter to the OFDM receiver (page 7 [0094] and page 2 [0027]).

Regarding claim 4, 20 Kadous discloses a method as in claim 2, where the automaton is located at the OFDM receiver, and where information that is indicative of the selected MCS is signaled from the OFDM receiver to the OFDM transmitter (page 2 [0028]).

Regarding claim 5, 21, Kadous discloses a method as in claim I, where the selected performance criterion comprises data throughput (allows aggressive data rate selection to increase system throughput, paragraph 6 [0087]).

Regarding claim 6, 22, Kadous discloses a method as in claim 1, where the OFDM communications system operates by loading a plurality of data packets across the plurality of sub-carriers so that the plurality of data packets are loaded into one OFDM symbol (page 1 [0005]).

Regarding claim 7, 23, Kadous discloses a method as in claim 1, where the OFDM communications system operates by loading each sub-carrier with a data packet so that each data packet is spread across a plurality of OFDM symbols (page 1 [0005]).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Baum et al. (US 2003/0112744), Method And System Of Operation For A Variable Transmission Mode Multi-Carrier Communication System.

b) Sato (US 2003/0090993), OFDM Transmitting and Receiving Apparatus.

c) Sadri et al. (US 2005/0032514), Apparatus And Associated Methods To Perform Intelligent Transmit Power Control With Subcarrier Puncturing.

d) Maltsev et al. (US 2005/0031047), Adaptive Multicarrier Wireless Communication System, Apparatus And Associated Methods.

e) Goldstein et al. (US 2004/0203465), Mode Adaptation In Wireless Systems

f) Jia et al. (US 2003/0072395), Method And Apparatus For Channel Quality Measurements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*** N.N.

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WING CHAN
SUPERVISORY PATENT EXAMINER